

Work Order ID 83407

April-18-12 8:06:44 AM

83407

Page 1

Item ID: D3488-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Blade Fitting Assembly, LH

Start Date: 18/04/2012 Start Qty: 12.00

12

Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: *MLJ*

Date: *12/04/18* Tooling:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D3488

Rev B

100

0.00

100

DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Dwg DSK 101 & Folio FA6252-Deburr

SL 12/05/30
SL 12/5/31

12 *Ø*

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

SL 12/5/31

12 *Ø*

120

0.00

120

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA625 & Dwg D34882-Deburr

PO/DA 12/06/13
SL

12 *Ø*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 83407

83407

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April-18-12 8:06:45 AM

Item ID: D3488-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Blade Fitting Assembly, LH

Stop ***NS2***

Start Date: 18/04/2012 Start Qty: 12.00

12

Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00

130

QC

Memo

0.00

PD/B.A.
SL

12/06/13

Quality Control

140

QC8- Inspect parts - second check

0.00

140

QC

Memo

0.00

2 12.6.18

12

Quality Control

150

Chemical Conversion Coat per QSI005 4.1

0.00

150

HandFinish

Memo

0.00

12

MG 12-6-19

Hand Finishing

W/O:		WORK ORDER CHANGES					
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N900040100

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NS1

Revision ID:

Item Name: Blade Fitting Assembly, LH

Stop

NS2

Start Date: 18/04/2012 Start Qty: 12.00

12

Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

160

Powdercoat

Memo

0.00

Powder Coating

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

M120222

3200F

11-10

12x

M/L
12/06/19

170

QC3- Inspect Part Finish

0.00

170

QC

Memo

0.00

Quality Control

12x

M 12/06/20

180

HandFinishing

0.00

180

HandFinish

Memo

0.00

Hand Finishing

Install Inserts as per Dwg D3488

12x

M 12/06/20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 83407

83407

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April-18-12 8:06:45 AM

Item ID: D3488-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Blade Fitting Assembly, LH

Start Date: 18/04/2012 Start Qty: 12.00

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Cust Item ID:

Required Date: 02/05/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: Date:

Tooling: Date:

Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190 QC5- Inspect part completeness to step on W/O 0.00

190

QC Memo 0.00

Quality Control

12 & 12-6-20

200 Identify as per dwg & Stock Location: FR-2 0.00

200

Packaging Memo 0.00

Packaging

X12 & 12-6-20

210 QC21- Final Inspection - Work Order Release 0.00

210

QC Memo 0.00

Quality Control

12/6/20

12-6-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

April-18-12 8:06:49 AM

Page 1

Work Order ID: 83407

83407

Parent Item: D3488-041

D3488-041

Parent Item Name: Blade Fitting Assembly, LH

Start Date: 18/04/2012

Required Date: 02/05/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A New Issue 06-02-28 JLM
IPP Rev:B As per Rev B 06-03-30 JLM
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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ALS7-1032-225

Purchased

No

Each

1,075.000

48

AI S7-1032-225

* ALS4 1032-225 / 11121269

**

(x48) 12/06/20

INSERT

Location

Loc Qty

Loc Code

ST282

1075

100896

135

111529

27

118520

913

D6103-003

Manufactured

No

Each

22.0000

12

D6103-003

**

Round Billet, Aluminum

Location

Loc Qty

Loc Code

MAT043

22

76982

4

82262

18

B84409 X12

12/05/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	03402
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	1.150	/			SJ-9
Ø2.780	+/-0.005	2.780	/			
Ø3.125	+/-0.010	3.125	/			
Ø3.346	+/-0.010	3.347	/			
0.125 x 45°	+/-0.010 x +/-0.1°	.125 x 45°	/			
8.000	+0.030/-0.000	8.0	/			
9.250	+/-0.010	9.250	/			
0.188	+/-0.010	.187	/			
R0.032	+/-0.010	R.03	/			
R0.062	+/-0.010	R.06	/			
Ø0.297	+0.005/-0.001	.299	/			
Ø0.430	+/-0.010	.432	/			
0.100	+/-0.010	.100	/			
0.125	+/-0.010	.130	/			
2.620	+/-0.010	2.620	/			
3.500	+/-0.010	3.500	/			
1.005	+/-0.010	1.005	/			
Ø0.484	+0.005/-0.001	.485	/			
1.180	+/-0.010	1.180	/			
3.150	+/-0.010	3.150	/			
3.070	+/-0.010	3.070	/			
R0.063	+/-0.010	R.06	/			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	83407
Description: Blade Fitting, LH / Turning Detail for D3488-1/-2		Part Number:	D3488-1
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 2 of 2	

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	0.508	✓		VERN	PHD-01
0.750	+/-0.010	0.746	✓		HOSS 2	
1.500	+/-0.010	1.500	✓		VERN	PHD-01
11.18	+/-0.030	11.177	✓		H gauge	
R0.062	+/-0.010	0.062	✓		Rad gauge	
0.125	+/-0.010	0.121	✓		VERN	PHD-01
0.590	+/-0.010	0.590	✓		H gauge	
0.793	+/-0.010	0.797	✓		"	
1.351	+/-0.010	1.345	✓		H gauge	
1.317	+/-0.010	1.319	✓		VERN	PHD-01
1.802	+/-0.010	1.802	✓		H gauge	

Measured by:	PO/Ba	Audited by:	TR	Prototype Approval:	N/A
Date:	12/06/13	Date:	12. C-18	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-041	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	

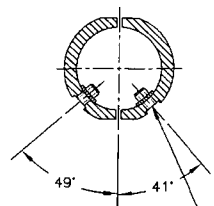
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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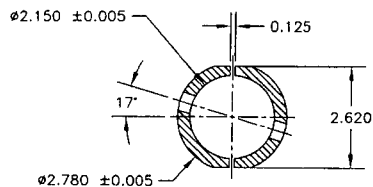
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



SECTION B-B

Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)



SECTION A-A

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X	X	D3488-041	BLADE FITTING ASSEMBLY (LH)
		D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
	1	D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

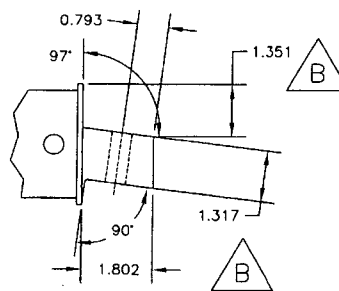
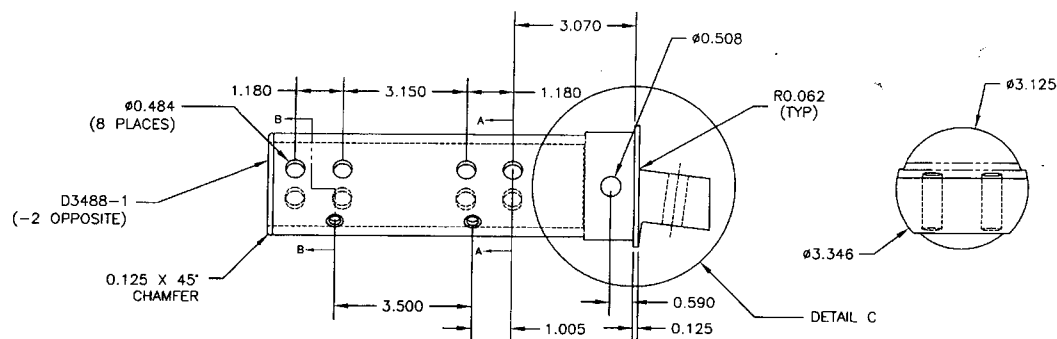
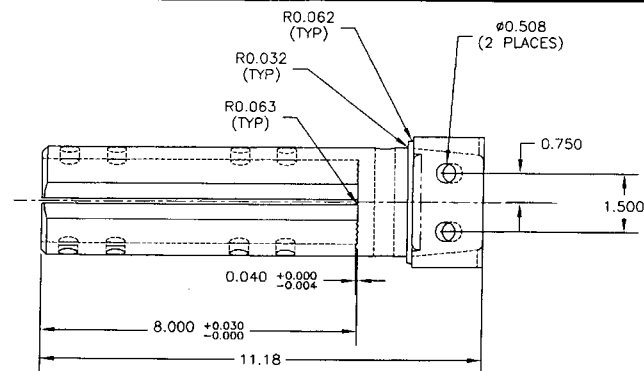
D3488-041/-042 BLADE FITTING

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 83407 MLJ

12/04/18



DETAIL C

D3488-041 SHOWN (D3488-042 OPPOSITE)

RELEASED
06.03.15 PH
REV. B
ECN #739

B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	06.03.15	TITLE
		BLADE FITTING
		SCALE
		1:3

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DART DART AEROSPACE USA, INC.
PORT HADLOCK, WA

DRAWING NO.
D3488

REV. B
SHEET 1 OF 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries